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The changing narratives of district heating in the UK: a case study of the city of Edinburgh

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Paper for RGS-IBG 2014 Session on Narrating Energy

University of Edinburgh, UK

27th August 2014

What we will cover

1. Introduction: *Heat & the City*, district heating, Theory: interpretative flexibility, innovation journeys
2. Case study of Edinburgh
3. Summary and Conclusions

Heat and the City project

- UK Research Councils - Energy programme funding
- 4 year project, 2010-14
- Edinburgh and Strathclyde Universities
- interdisciplinary team







District heating

- Delivery of low grade heat from central sources for space and hot water
- System of insulated pipe work (with leak detection)
- Heat exchange unit or direct feed in buildings



District heating in the UK

- [rich and varied history]
- [framed as a solution to several different policy problems]
- less than 2% of heat demand in the UK, and less than 1% within Scotland
- CHP-DH is not a new technology (Hawkey 2009), with Babus' Haq and Probert (1996) tracing UK attempts to install CHP-DH back to 1742

Narratives about district heating

- Resource efficiency (CHP and residual heat)
- Energy security and price stability
- Localisation of energy economy
- Regeneration of run-down areas
- Switch from high cost heating fuels
- Reduction in local and global pollution

Pre 1940s

- DH technology first introduced
- Eg Manchester, 1911, large CHP-DH
- DH as a solution to air pollution

1940s-50s

- Post war energy shortages
- Strong government – central planning and state support

1960s-70s

- DH encouraged but technology unreliable
- 1970s shift to nuclear power as an alternative

1980s-90s

- 1979 Marshall Report
- Recommendation for CHP-DH demonstration schemes

1990s+

- Individual CHP-DH schemes established
- Few larger city-wide schemes



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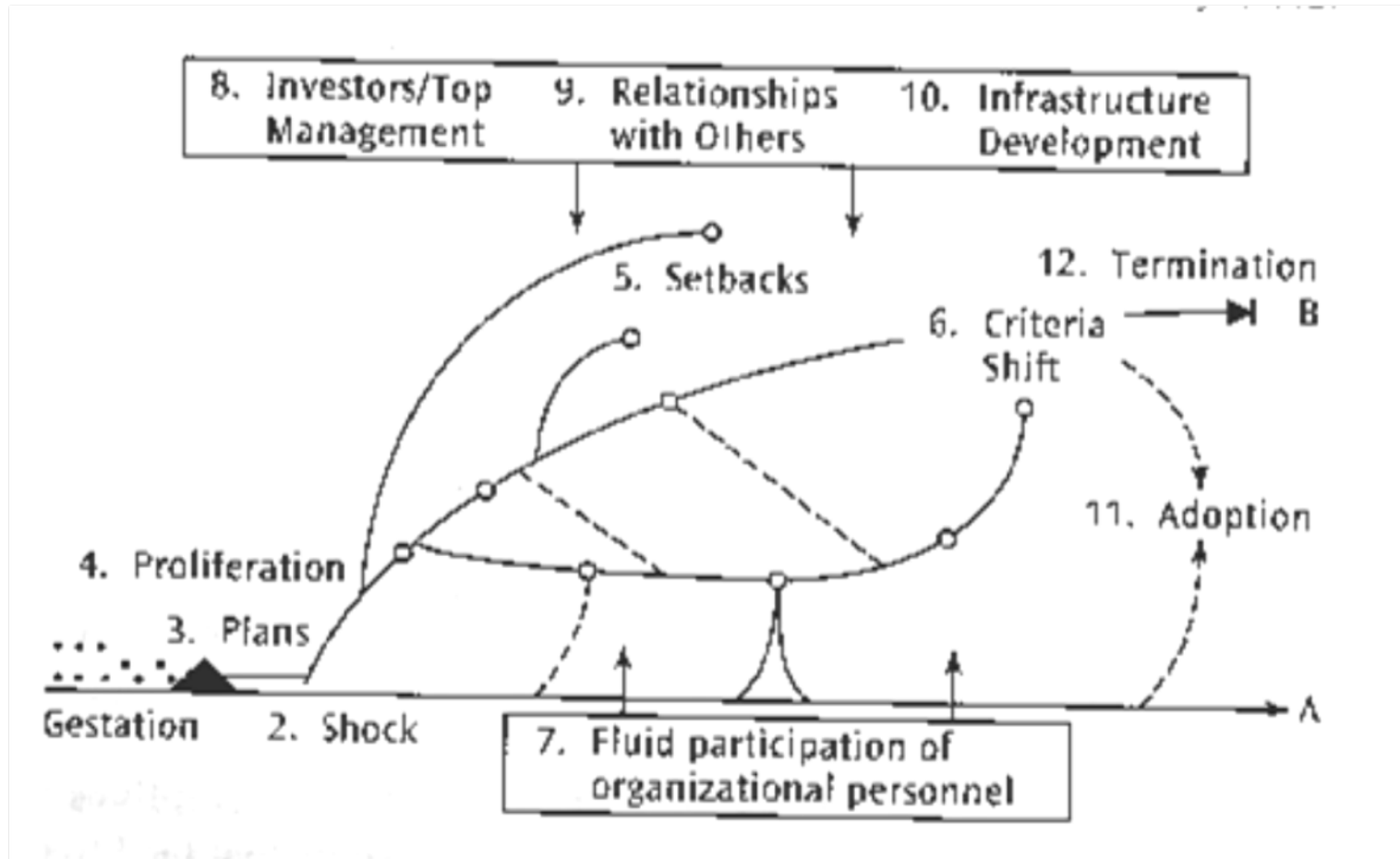


2. INTERPRETATIVE FLEXIBILITY & INNOVATION JOURNEYS

Interpretative flexibility

- Many configurations of HNs: scale, user base, energy sources, finance, ownership, pricing, etc.
- Permits multiple interpretations of what a HN is or does
 - Alternative to nuclear vs complement to nuclear
 - Reduce primary energy demand vs secure market for primary energy producer
 - Progressive municipal empowerment vs regressive undermining of nationalised industries

Innovation journeys

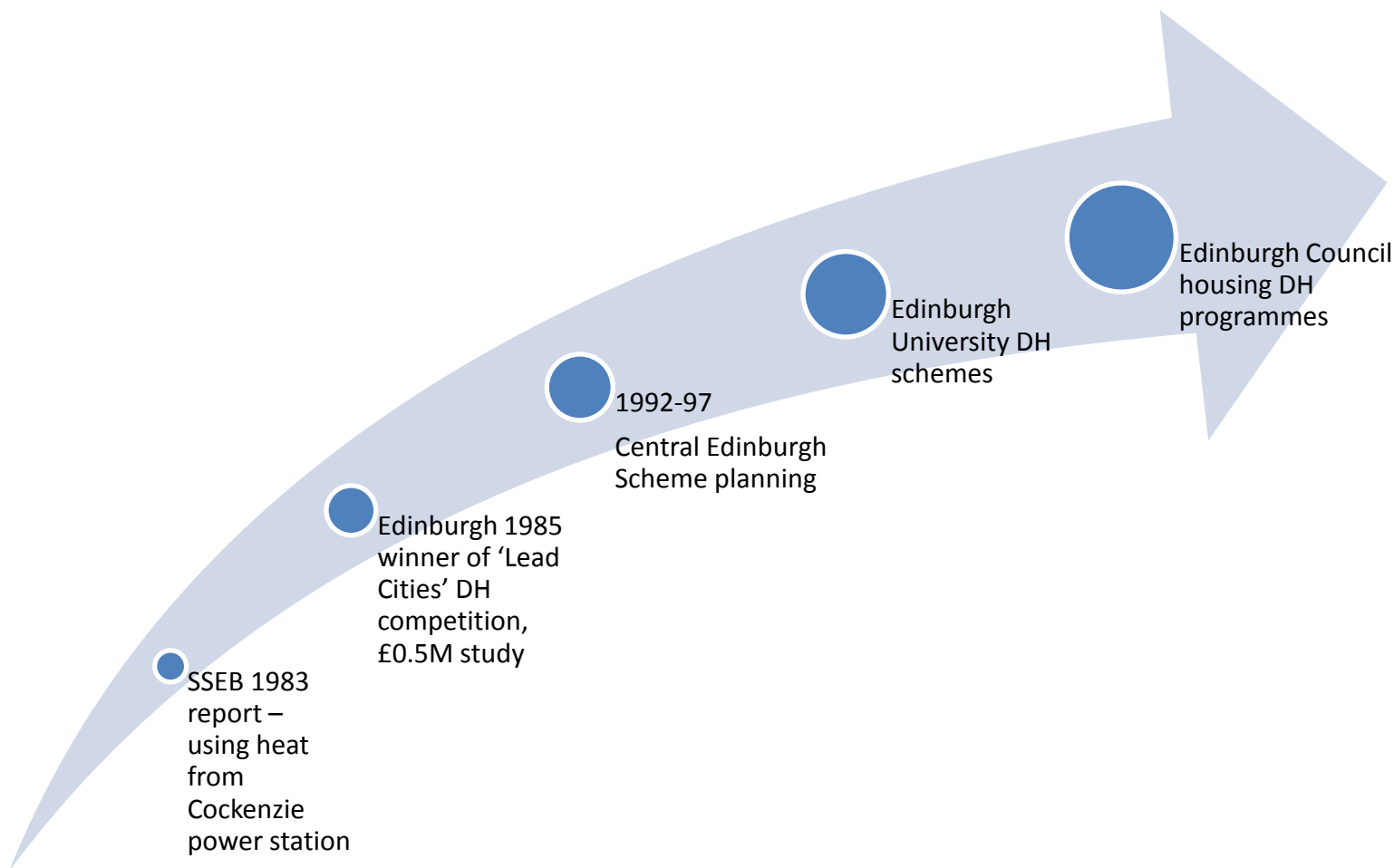


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3. THE CITY OF EDINBURGH AND DISTRICT HEATING

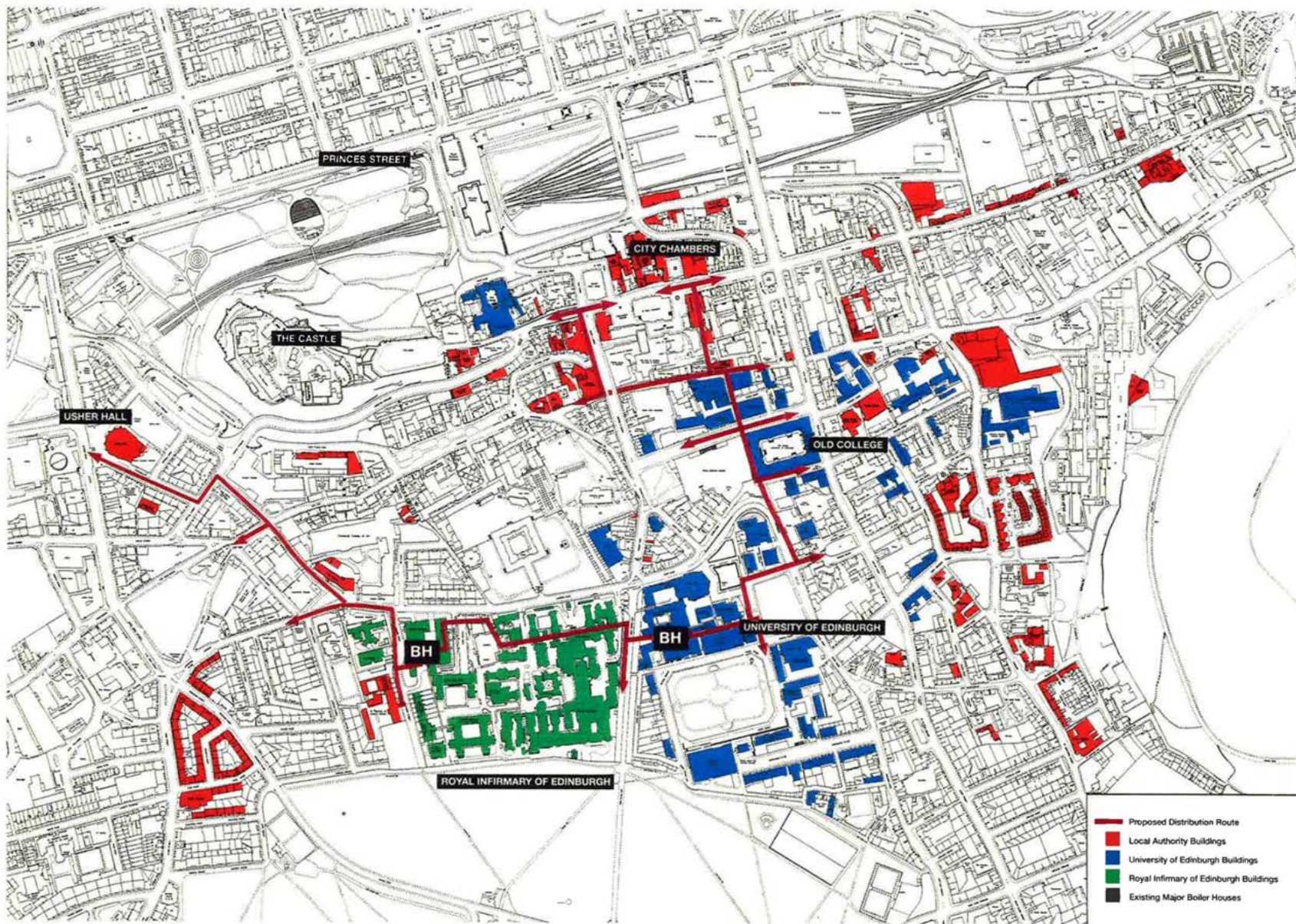


1980s:Cockenzie power station

- [picture of Cockenzie and proposal to ship heat?]

Central Edinburgh CHP-DH scheme 1992-1997

- Between public buildings in the Old Town: the Royal Infirmary of Edinburgh (RIE), parts of the University of Edinburgh, and council buildings
- A partnership between Lothian Regional Council (LRC) and the City of Edinburgh District Council (CEDC) chose a private company, Citigen, to assess the feasibility of this scheme and to develop it.
- the scheme never came to fruition due to several interacting factors, including the relocation of the RIE, and the turbulent gas and electricity prices of the 1990s.



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3. SUMMARY AND CONCLUSIONS

- [consider how to weave together conceptual themes with empirical case study – UK history of DH and Edinburgh case study..]

Any questions?

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